

Atty. Docket No. 12553/93
PATENT APPLICATION

Application No.: 10/620,630
Amendment dated: December 15, 2005
Office Action mail date: September 22, 2005

REMARKS/ARGUMENTS

Claims 1-33 are pending in the application.

1. § 103(b) Rejection Over US Patent 5,453,831

Claims 1-6, 8-22 and 24-33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,453,831 to Li et al (the '831 patent). The Examiner has agreed that claims 1 and 18 of the present application recite a mock slider including a recessed portion, while the '831 patent discloses a wedge slider. However, the Examiner has asserted that the use of a slider with a recessed portion would be functionally equivalent to the wedge slider of the '831 patent, since the wedge slider is essentially a constant recessed portion with a changing slope and no change in the setup of the device is required to make an identical interference measurement using either the wedge slider or the slider with a recessed portion. The Examiner then rejected claims 1 and 18 over the '831 patent. Applicants respectfully disagree.

In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents. *In re Ruff*, 256 F.2d 590 (CCPA 1958).

First, the Examiner has not provided any prior art which recognizes that the slider including a recessed portion recited in the claims and the wedge slider of the '831 patent are functional equivalents.

Atty. Docket No. 12553/93
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In the '831 patent, the distance or flying height between the wedge slider and a disc must be measured at a plurality of locations along its length. The '831 patent states:

The calibration standard 30 of the present invention is shown in FIG. 2 and comprises a glass disc 32, a wedge slider 34, a load bridge 36, a load spring 38 and a cover case 40. The wedge slider 34 contacts the disc 32 at both a first end 41 and a second end 42 and is held in contact with the disc 32 through the use of the load spring 38, the load bridge 36 and the cover case 40. The cover case 40 contacts the glass disc 32 and is held in place through the use of an adhesive. A first end 43 of the load spring 38 contacts an inner surface 44 of the cover case 40 while a second end 45 of the load spring 38 contacts a top surface 46 of the load bridge 36. The load bridge 36 has a first leg 47 and a second leg 48 which contact the wedge slider 34 at its first end 41 and second end 42, respectively, so as to transmit the force from the load spring 38 to the wedge slider 34 without deforming the wedge slider 34. The load spring 38 is designed to provide sufficient pressure to firmly hold the wedge slider 34 against the disc 32 without causing deformation of the wedge slider 34 or the disc 32.

A pair of bumps 49 at the second end 42 of the wedge slider 34 create a wedge-shaped space between the wedge slider 34 and the glass disc 32.

(the '831 patent, col. 3, lines 23-44, emphasis added).

The position of the wedge slider 34 on the glass disc 32 is shown in detail in FIG. 4. The horizontal position along the length of the wedge slider 34 is defined by the variable x which is measured along an x -axis that begins at the first end 41 of the wedge slider 34 where $x=0$ and ends at the second end 42 of the wedge slider 34 where $x=L$. The vertical distance, or flying height, between the glass disc 32 and the surfaces 58 and 64 of the first and second rails 52 and 54 is defined by the variable h . The flying height h varies with x and is zero at $x=0$ and H at $x=L$.

(the '831 patent, col. 4, lines 3-12, emphasis added).

Atty. Docket No. 12553/93
PATENT APPLICATION

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The light source 72 is moved along the x-axis so that light is reflected off of each point along the surface 64 of the second rail 54. The additive and subtractive nature of the reflected light along paths 76d and 76h creates a continuous spectrum containing segments of high intensity light as well as darker segments for the sensor. From this continuous spectrum can be found values for both the maximum intensity I_{\max} and the minimum intensity I_{\min} of the light on the sensor. This process is known as light intensity calibration.

(the '831 patent, col. 5, lines 10-21, emphasis added).

The bumps 49 of the wedge slider 34 can be made sufficiently high to allow calibration of the flying height tester in any of a variety of flying height ranges by providing a wedge having a continuous spacing variation from zero to a selected H.

(the '831 patent, col. 6, lines 51-55).

Thus, in the '831 patent, the flying height h is measured at a plurality of locations along the length of the wedge slider 34. The continuous optical wedge measurement is essential to the method of the '831 patent. There is nothing in the '831 patent recognizing that a slider including a recessed portion recited in the claims and the wedge slider of the '851 patent are functional equivalents.

Further, in addition to a mock disc, a load spring and a cover used in both the '831 patent and embodiments of the claimed invention, the '831 patent uses the wedge slider 34 and a load bridge 36, while the present invention uses only a mock head with a recessed portion. Two

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components will obviously cost more in manufacture and operation than one component. Had the inventors of the '831 patent recognized that a slider with a recessed portion is an equivalent to their wedge slider, they would not bother to use the wedge slider and the load bridge.

Second, even assuming, *arguendo*, that a slider with a recessed portion and a wedge slider might be functional equivalents, it is improper for the Examiner to base his rejection on this.

Accordingly, Applicants submit that the Examiner's §103 rejection of claims 1-31 of the present application is improper, and these claims are patentable over the '831 patent.

The Examiner has taken Office Notice to reject claims 14, 30, 32 and 33, asserting that it is well known to plot curves of data for easy, visual information comparison. However, the Examiner failed to address at least the limitation "each curve associated to a specific light frequency". Accordingly, Applicants submit that claims 14, 30, 32 and 33 are patentable over the '831 patent.

2. § 103(b) Rejection Over the '831 Patent and US Patent 5,710,632

Claims 7 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the '831 patent and US Patent 5,710,632 (the '632 patent). The '632 patent does not teach or suggest a slider with a recessed portion either. Thus, even if a skilled artisan were to combine the '831 patent and the '632 patent, the combination would not result in the claimed invention. Accordingly, Applicants submit that claims 7 and 23 are patentable for this additional reason.

Atty. Docket No. 12553/93
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Request for Allowance

It is believed that this Amendment places the application in condition for allowance, and early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the telephone number listed below.

The Office is hereby authorized to charge any fees, or credit any overpayments, to Deposit Account No. 11-0600.

Respectfully submitted,

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Dated: December 15, 2005

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